

REMARKS

Applicant thanks the Examiner for acknowledging Applicant's claim to foreign priority under 35 U.S.C. § 119(a)-(d), and for confirming that the certified copy of the priority document has been received at the Patent Office. Further, Applicant thanks the Examiner for initialing the references listed on the PTO-1449 form submitted with the application, thereby confirming that these references have been considered.

Drawings:

The Examiner has objected to the drawings under 37 C.F.R. § 1.83(a) stating that the drawings do not show every feature of the claimed invention.

With regard to claim 6, Applicant has amended the specification, as shown in the attached Appendix, to make it clear that the wall 4.1 acts as a guide for the spring contact in the housing. An example of this configuration can be seen in Figure 1, which shows the wall 4.1 serving as the guide for the spring contact in the housing. It is noted that because the original claim 6 disclosed this feature of the present invention, and adequately identified the features of the guide means (4.1), the amendment to the specification (as attached) does not constitute new matter.

With regard to claim 7, as stated in the specification of the above referenced application the "spring contact 7 is retained in the housing 4 by retaining means which include lugs 28 holding the portion 17 pressed against a rim 29 of the first entry 5." *See* Specification, page 7, lines 26-29. An example of the retainer feature, of the present invention, can be seen in Figure 1.

Therefore, Applicant respectfully submits that the drawings, as filed, adequately show every feature of the claimed invention, and hereby requests the Examiner withdraw his objection to the drawings.

Claim Rejections:

Claims 1-11 are all the claims pending in the application. Currently all of the claims stand rejected.

35 U.S.C. § 112, 2nd Paragraph Rejection - Claims 5-11:

Claims 5-11 stand rejected under 35 U.S.C. § 112, 2nd paragraph, as being indefinite. Applicant has amended claim 5, to address the Examiner's concerns, and respectfully submits that claims 5-11 are now allowable over the above rejection.

Further, Applicant would like to point out that the amendments to the claims (including claim 5) were intended merely to clearly claim the present invention, and were not intended to narrow the scope or spirit of the original claims in any way.

35 U.S.C. § 102(e) Rejection - Claims 1-8 and 10-11:

Claims 1-8 and 10-11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,053,776 to Bricaud et al. In view of the following discussion, Applicant respectfully disagrees.

Bricaud discloses a thin electrical connector for connecting contact pads of a smart card to a circuit board. The electrical connector includes a number of contacts 44, each having engaging blades 60, which make contact with the smart card, and connection ends 68, which are soldered to traces on the circuit board. See Bricaud, Figures 3 and 8-11, and col. 3, lines 14-20.

The contacts 44 are secured to an insulative support plate 42, which is secured to a circuit board. The contacts 44 are secured to the insulative support plate 42 using a pair of front branches 82 (each having a ear 104), and a pair of rear branches 84 (each having an ear 118). *See id.* at Figures 3 and 8-9, and col. 3, lines 50-60. The ears 104 and 118 of each of the front and rear branches "lie in upwardly opening recesses in the support plate." *Id.* at col. 3, lines 59-60.

This is different from the present invention. In the present invention, the spring contact is substantially U-shaped having two branches, where "each branch [is] adapted to make electrical contact with a device." *See* Claims 1 and 5. This is not disclosed in Bricaud. The Examiner asserts that Bricaud discloses "two branches (82, 60) . . . each branch (82, 60) being adapted to make electrical contact with a device." *See* Office Action dated March 27, 2001, page 3, 1st paragraph. In reviewing the discussion above, this statement is not correct. The front branch 82, in Bricaud, does not make any electrical contact with any electrical device, and is merely used as a support member for the contact 44. The branches 82 and 84 only make contact with the insulative support plate.

Therefore, Applicant respectfully submits that Bricaud fails to disclose each and every feature of the claimed invention, as claimed in claims 1 and 5, and hereby requests the Examiner reconsider and withdraw the 35 U.S.C. § 102(e) rejection of these claims. Further, as claims 2-8 and 10-11 depend on these claims (respectively), these claims are also allowable, at least by reason of their dependency.



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35 U.S.C. § 103(a) Rejection - Claim 9:

Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bricaud in view of U.S. Patent No. 5,865,642 to Suzuki. Since claim 9 depends upon claim 5 and since Suzuki does not cure the deficient teachings of Bricaud with respect to claim 5, Applicant submits that claim 9 is patentable at least by reason of its dependency.

Conclusion:

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

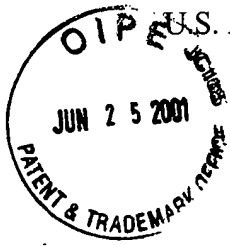
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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is amended as follows:

Page 7, please correct the 3rd paragraph, continuing to page 8, with the following correction:

As shown in Figure 1, the spring contact 7 is retained in the housing 4 of the body 1 by retaining means which include lugs 28 holding the portion 17 pressed against a rim 29 of the first entry 5. The lugs 28 are drops of plastics material melted onto the spring contact 7 after it is positioned in the housing 4, for example. The spring contact 7 is inserted into the body 1 via the first entry 5 on the first face 24. The size of the first entry 5 is such that it allows all of the spring contact 7 to pass through it. In contrast, the second entry 6 allows only the second branch 12 of the spring contact 7 to pass through it. The branch 11 is retained in the first entry 5 by the wall 4.1, which serves as a guide for the spring contact 7 guiding the contact into place within the housing 4. The housing 4 therefore includes a hole leading from the first entry 5 to the second entry 6 whose cross-section is restricted to the size of the aperture of the second entry 6. When an object, for example a battery, is pressed against the second face 3 of the body 1, and therefore against the branch 12 of the spring contacts 7, the branch 12 is depressed, the height 26 is reduced and the portion 22 is depressed into the housing 4. In one example, the maximum travel of the branch 12 is 1.5 mm. The object pressed against the second face 3 must exert a force lying in the range 0.5 newtons (N) to 1.5 N to depress the branch 12 into its housing 4.

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IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) A spring contact for use in a connector, which spring contact is substantially U-shaped and has two branches ~~(11, 12)~~ and a base ~~(13)~~ joining the two branches at one end, each branch being adapted to make electrical contact with a device, characterized in that the two branches ~~(11, 12)~~ lie in two diverging planes ~~(11.1, 12.1)~~ and the intersection ~~(1)~~ of said two planes is within the base ~~(13)~~ of the U-shape.

2. (Amended) A spring contact according to claim 1, characterized in that one branch ~~(11)~~ and the base ~~(13)~~ are coplanar.

3. (Amended) A spring contact according to ~~either~~ claim 1, characterized in that the electrical contact of at least one branch ~~(11)~~ is at the free end ~~(16)~~ of said branch.

4. (Amended) A spring contact according to ~~1-claim~~ claim 1, characterized in that one branch ~~(11)~~ is adapted to come into contact with a printed circuit and the other branch ~~(12)~~ is adapted to come into contact with a battery.

5. (Amended) An electrical connector having a first face ~~(2)~~ and a second face ~~(3)~~ opposite the first face, the connector including at least one housing ~~(4)~~ for receiving a spring contact and opening onto both faces, said spring contact being substantially U-shaped and having two branches and a base joining the two branches at one end, each branch being adapted to make



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electrical contact with a device, characterized in that the two branches lie in two diverging planes and the intersection of said two planes is within the base of the U-shape (7) according to any preceding claim and opening onto both faces;

wherein, characterized in that the spring contact is positioned in the housing so that the plane (13.1) containing the base (13) of the U-shape is substantially parallel to the respective planes (2.1, 3.1) of the faces (2, 3) of the connector.

6. (Amended) A connector according to claim 5, ~~characterized in that it includes means (4.1) for guiding~~ further comprising a guide to guide the spring contact (7) into position in the housing (4).

7. (Amended) A connector according to claim 5, ~~characterized in that it includes means (28, 29) for retaining~~ further comprising a retainer for retaining the spring contact (7) in the housing (4).

8. (Amended) A connector according to claim 5, characterized in that one branch (12) of the spring contact (7) projects from the housing (4).

9. (Amended) A connector according to claim 5, including a plurality of housings (4a, 4b) each receiving a respective spring contact (7a, 7b) according to any of claims 1 to 4, characterized in that the spring contacts (7a, 7b) in two adjacent housings (4a, 4b) are positioned



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so that they are substantially parallel but the opposite way round to each other, one branch ~~(11a)~~ of one contact ~~(7a)~~ being adjacent the other branch ~~(12b)~~ of the adjacent contact ~~(7b)~~.

10. (Amended) A connector according to claim 54, characterized in that one face ~~(3)~~ of the connector has a pick-up area ~~(33)~~ substantially at the center of said face ~~(3)~~.

11. (Amended) A connector according to claim 5, having lateral faces ~~(35, 36)~~ joining the first and second faces ~~(2, 3)~~, characterized in that the lateral faces ~~(35, 36)~~ include at least one recess ~~(34)~~ and a free end ~~(16)~~ of one branch ~~(11)~~ of the spring contact ~~(7)~~ projects into said recess ~~(34)~~.